

Material: SAE 1146

Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, To Wire Rods, Plates, Strip, Sheets and Tubing

Group: Ferrous Mild Steel Alloys

Sub Group: SAE 1146 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, Wire Rods, Plates, Strip, Sheets and Tubing

Application: Intended for Valve, Pump, General Engineering, Automotive and Other Industries

Grade Belongs to the Industry: Bars, Wire Rods, Plates, Strip, Sheets and Tubing

Chemical Composition			Heat Treatment
Carbon	C %	0.420 - 0.490	As Raw or Annealing or Normalizing or Hardening and Tempering
Manganese	Mn %	0.700 - 1.000	
Phosphorus	P %	0.030 max.	
Sulphur	S %	0.080 - 0.130	
Lead	Pb %	0.150 - 0.350	
Iron	Fe %	Balance	
-	-	-	
-	-	-	
-	-	-	
-	-	-	
Mechanical Properties			
			Tensile Strength in Mpa
			590 - 650
			Yield Strength in Mpa
			320 min.
			Elongation in %
			12 min.
			Reduction of Area in %
			35 - 40
			Hardness in HB
			170 - 187
			Impact in Joule
			-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G11460	UNS	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
1146	AISI	USA	Steel and Bar
A 1040 1146	ASTM	USA	Steel
A 29 1146	ASTM	USA	Steel and Bar
A 510 1146	ASTM	USA	Wire Rod, Round Wire and Steel
A 576 11L46	ASTM	USA	Steel and Bar
A 576 1146	ASTM	USA	Steel and Bar

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Customer Care: +91-99090 45075 Email: info@icastllp.com